DaimlerChrysler AG

Patent claims

1. A process for producing a hollow profiled section which is shaped out of at least one metal sheet by means of a fluidic high pressure, characterized in that prior to the shaping of the metal sheet (1) the surface of the metal sheet (1) is provided with structure elements (2) in the form of depressions and/or elevations, the number, dimensions and contours of the structure elements (2) being selected in such a way that during the widening the maximum permissible change in peripheral size for the component is complied with and the maximum degree of shaping is increased.

2. The process as claimed in claim 1, characterized in that the metal sheet (1) is bent to form a tubular semi-finished hollow profiled section, is then longitudinal seam welded and then widened by means of internal high pressure in an internal high-pressure forming tool to form the hollow profiled section.

3. The process as claimed in claim 1, characterized in that two metal sheets (1) are placed on top of one another and clamped in an internal high-pressure forming tool, after which a pressurized fluid is introduced between the metal sheets (1), and in that the metal sheets (1) are spread apart and widened to form the hollow profiled section by the application of an internal high pressure by means of the pressurized fluid.

4. The process as claimed in claim 1, characterized in that the metal sheet (1) is bent to form a tubular semi-finished hollow profiled section and is then longitudinal seam welded, and in that the semi-finished hollow profiled section is shaped into the hollow profiled section in an external high-pressure forming

tool by the interaction of a fluidic high pressure directed from the outside inward with a die which has been introduced into the interior of the semi-finished hollow profiled section.

5. The process as claimed in one of claims 1 to 4, characterized in that during the introduction of the hollow profiled section into the forming tool the structural elements (2), with respect to the inner surface of the forming tool, in some cases enclose cavities for holding a lubricant.

6. The process as claimed in one of claims 1 to 5, characterized in that the structure elements (2) are at least partially retained on the surface of the metal sheet (1) during the deformation used to form the hollow profiled section.

7. The process as claimed in one of the preceding claims, characterized in that the structure elements (2) are stamped or rolled on the surface of the metal sheet (1).